



PATENT  
Customer No. 22,852  
Attorney Docket No. 07553.0030 (formerly 07363.0010)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Reissue Application of: )  
U.S. Patent No.: 5,792,261 )  
Inventor: Kiichi HAMA et al. )  
Issued: August 11, 1998 )  
Serial No.: 09/478,370 )  
Filed: February 16, 2000 )  
For: PLASMA PROCESS )  
APPARATUS )

Group Art Unit: 1763

Examiner: L. Alejandro Mulero

RECEIVED  
OCT 23 2002  
TC 1700 MAIL ROOM

Commissioner for Patents  
Washington, DC 20231

Sir:

**APPENDIX TO AMENDMENT**

**IN THE CLAIMS:**

165. (Amended) An apparatus for processing a process region of a substrate,  
using a plasma, comprising:  
a container substantially formed of a conductive material;  
a partition plate supported by said container and defining an air-tight process  
container portion and an air-tight auxiliary container portion, and having a window plate  
made of dielectric;

FINNEGAN  
HENDERSON  
FARABOW  
GARRETT &  
DUNNER LLP

1300 I Street, NW  
Washington, DC 20005  
202.408.4000  
Fax 202.408.4400  
www.finnegan.com

a work table arranged in said process container portion and having a support face facing said window plate, the substrate being mountable on said support face with the process region facing said window plate;

a main supply for supplying a process gas between said window plate and the substrate mounted on said support face, at least part of the process gas being transformable into the plasma;

a planar spiral coil having a quadrilateral outer configuration for generating an electromagnetic field between said window plate and the substrate mounted on said support face to induce generation of the plasma, arranged in said auxiliary container portion and facing said window plate;

a power supply section for applying a high frequency voltage to said [antenna] planar spiral coil;

a pressure controller controlling a pressure difference between a pressure in said process container portion and a pressure in said auxiliary container portion lower than a predetermined value;

a seat arranged on said window plate supporting said planar spiral coil, said seat having a passage therethrough for circulating a coolant; and

an exhaust pump connected to the auxiliary container portion and the process container portion.

166. (Amended) An apparatus for processing a process region of a substrate, using a plasma, comprising:

a container substantially formed of a conductive material;

FINNEGAN  
HENDERSON  
FARABOW  
GARRETT &  
DUNNER LLP

1300 I Street, NW  
Washington, DC 20005  
202.408.4000  
Fax 202.408.4400  
[www.finnegan.com](http://www.finnegan.com)

a partition plate supported by said container and defining an air-tight process  
container portion and an air-tight auxiliary container portion, and having a window plate  
made of dielectric;

an exhaust pump for exhausting and setting [at least one of] said process  
container portion and said auxiliary container portion to a vacuum;

a work table arranged in said process container portion and having a support  
face facing said window plate, the substrate being mountable on said support face with  
the process region facing said window plate;

a main supply for supplying a process gas between said window plate and the  
substrate mounted on said support face, at least part of the process gas being  
transformable into the plasma;

a planar spiral coil for generating an electromagnetic field between said window  
plate and the substrate mounted on said support face to induce generation of the  
plasma, arranged in said auxiliary container portion and facing said window plate;

a power supply section for applying a high frequency voltage to said planar spiral  
coil; and

a pressure controller connected to said exhaust pump for keeping a pressure  
difference between pressures in said process and auxiliary container portions at a  
minimum value [; and

an exhaust pump for exhausting and setting at least one of said process  
container portion and said auxiliary container portion to a vacuum].

FINNEGAN  
HENDERSON  
FARABOW  
GARRETT &  
DUNNER LLP

1300 I Street, NW  
Washington, DC 20005  
202.408.4000  
Fax 202.408.4400  
www.finnegan.com